

AMENDMENTS TO THE CLAIMS:

Please amend claim 1 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A microsensor for detecting corrosive media acting on a metallic material when mounted in situ adjacent a location in the metallic material, the microsensor including:

a planar substrate with an insulative surface;

at least two common terminals located on said surface; and

a plurality of corrosive tracks located on said surface, each of the corrosive tracks;

electrically connecting said at least two common terminals,

exposed to the corrosive media, and

comprising a patterned conductive thin film track following a path which includes a plurality of mutually inverted generally U-shaped bends.

2. (original) A microsensor according to claim 1, wherein each said corrosive track has a width which is substantially constant across its length.

3. (previously presented) A microsensor according to claim 1, wherein each said corrosive track is formed to meander across a surface portion of a common substrate.

4. (original) A microsensor according to claim 3, wherein each said surface portion comprises one of a set of linear corridors on the common substrate.

5. (previously presented) A microsensor according to claim 1, wherein the minimum separation between adjacent corrosive tracks is preferably at least as great as the average width of said corrosive tracks.

6. (previously presented) A microsensor according to claim 1 wherein each said bend has a minimum radius of curvature which is greater than half the average width of said corrosive tracks.

7. (previously presented) A microsensor according to claim 1, comprising a resistivity sensor having said plurality of corrosive tracks arranged to provide a measurable variation in resistivity in response to prolonged exposure to corrosive media.

8. (original) A microsensor according to claim 7, comprising a reference sensor arranged to provide a measurable variation in resistivity in response to changes in temperature, the reference sensor having a similar temperature dependence as said resistivity sensor.

9. (original) A microsensor according to claim 8, wherein the reference sensor takes substantially the same form as said resistivity sensor.

10. (previously presented) A microsensor according to claim 8, wherein said reference sensor is formed in an overlapping arrangement with said resistivity sensor.

11. (previously presented) A microsensor according to claim 1, comprising a galvanic sensor having at least one said corrosive track made of a first metallic material and at least one further thin film track made of a second, different, metallic material, the tracks being arranged to provide a measurable variation in galvanic voltage in response to exposure to an electrolyte.

12. (original) A microsensor according to claim 11, wherein the galvanic sensor comprises a plurality of said corrosive tracks and a plurality of said further tracks, arranged in an interdigitated pattern.

13. (original) A microsensor according to claim 1, comprising a resistance thermometer sensor, a platinum resistance thermometer for example, arranged for measuring a temperature in the area in which the microsensor is mounted.

14. (original) A microsensor according to claim 1, wherein the corrosive tracks are made of a metallic alloy.

15. (original) A microsensor according to claim 14, wherein at least one corrosive tracks are made of an aluminium alloy.

16. (previously presented) Apparatus comprising a metallic component made from a metallic alloy in bulk form and a microsensor according to claim 14 mounted in situ adjacent a location in the component for detecting corrosive media acting on the bulk alloy, the bulk alloy having a main metal constituent which is the same as the main metal constituent of the track alloy, and at least one alloying metal constituent which is the same as the alloying metal constituent of the track alloy.

17. (original) Apparatus according to claim 16, wherein the proportion of the alloying constituent in the track alloy is similar to the proportion of the alloying constituent of the bulk alloy, to within 3% of the total constituents of the bulk alloy.

18. (original) Apparatus according to claim 16, wherein the proportion of the alloying constituent in the track alloy is similar to the proportion of the alloying constituent of the bulk alloy, to within 1% of the total constituents of the bulk alloy.

19. (previously presented) Apparatus according to claim 16, further comprising a second metallic component made from a different metallic alloy in bulk form and a second microsensor mounted in situ adjacent a separate location, which is in the second component, for detecting corrosive media acting on the different bulk alloy, the different bulk alloy having a main metal constituent and at least one alloying metal constituent, the second microsensor having at least one thin film track made from a metallic alloy which is different to the metallic alloy from which the at least one track of the first-mentioned microsensor is made and having a main metal constituent which is the same as the main metal constituent of the different bulk metallic alloy,

and at least one alloying metal constituent which is the same as the main alloying metal constituent of the different bulk metallic alloy.

20. (previously presented) An aircraft including apparatus according to claim 16.

21. (previously presented) A method of manufacture of a microsensor according claim 14, comprising depositing the alloy of said at least one thin film track onto a substrate to form a thin film and annealing the thin film to encourage metallic grain growth.

22. (original) A method according to claim 21, wherein the depositing step comprises sputtering the alloy of the said at least one thin film track onto the substrate.